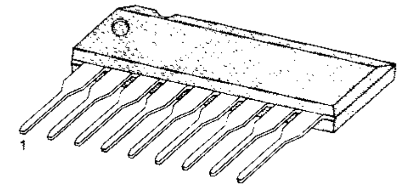
5-DOT DUAL LED LEVEL METER DRIVER

The KA2284/KA2285 are a monolithic integrated circuits designed for 5-dot LED level meter drivers with a built-in rectifying amplifier; it is suitable for AC/DC level meters such as VU meters or signal meters.



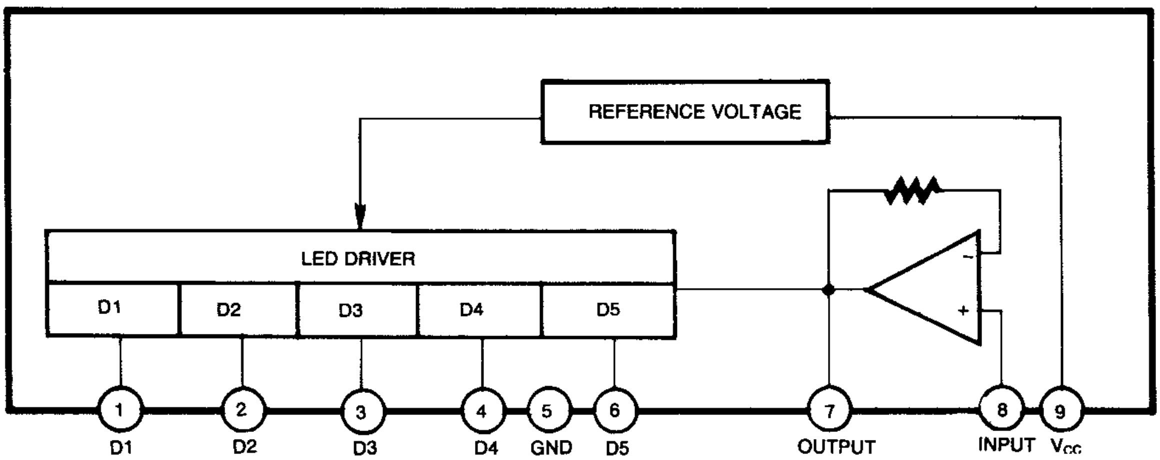
FEATURES

- **High gain rectifying amplifier included ($G_V = 26dB$).**
- **Low radiation noise when LED turns on.**
- **Logarithmic indicator for 5-dot LED of bar type. (−10, −5, 0, 3, 6dB)**
- **Constant current output.**
  KA2284: I_o =15mA Typ.
  KA2285: I_o =7mA Typ.
- **Wide operating supply voltage range: $V_{CC} = 3.5V \sim 16V$**
- **Minimum number of external parts required.**

ORDERING INFORMATION

Device	Package	Operating Temperature	I_D
KA2284	9 SIP	−20°C ~ +80°C	15 mA
KA2285	9 SIP	−20°C ~ +80°C	7 mA

BLOCK DIAGRAM



*Capacitor to be omitted when used as a DC input signal meter

Fig. 1

ABSOLUTE MAXIMUM RATINGS (T_a =25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	18	V
Amp Input Voltage	$V_{I\,(8\text{-}5)}$	$-0.5 \sim V_{CC}$	V
Pin 7 Voltage	$V_{7\text{-}5}$	6	V
D Terminal Output Voltage	V_D	18	V
Circuit Current	I_{CC}	12	mA
D Terminal Output Current	I_D	20	mA
Power Dissipation	P_D	1100	mW
Operating Temperature	T_{OPR}	$-20 \sim +80$	°C
Storage Temperature	T_{STG}	$-40 \sim +125$	°C

−11mW/°C is decreased at higher temperature than T_a =25°C.

ELECTRICAL CHARACTERISTICS

(T_a =25°C, V_{CC} =6V, f=1KHz, unless otherwise specified)

Characteristic		Symbol	Test Conditions	Min	Typ	Max	Unit
Circuit Current		I_{CCQ}	V_i =0V		6	8.5	mA
D Output Current	KA2284	I_O	V_i =0.15V	11	15	18.5	mA
	KA2285			5	7	9.5	
Input Bias Current		I_{BIAS}		−1		0	μA
Amp Gain		G_V	V_i =0.1V	24	26	28	dB
Comparator ON Level	$V_{CL\,(ON)}$	$V_{CL(ON)1}$		−12	−10	−8	dB
		$V_{CL(ON)2}$		−6	−5	−4	
		$V_{CL(ON)3}$			0		
		$V_{CL(ON)4}$		2.5	3	3.5	
		$V_{CL(ON)5}$		5	6	7	

* Definition of 0dB: input voltage level when $V_{CL\,(ON)\,3}$ turn ON. (50mV)

TEST CIRCUIT

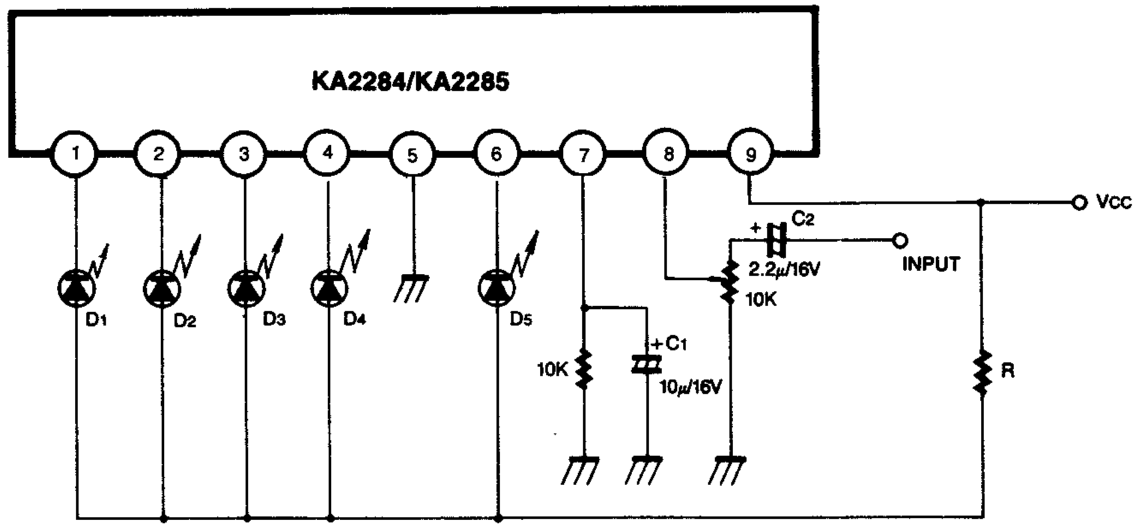


Fig. 2

C2: AC in, 2.2μ is used.
DC in, 2.2μ is shorted

The recommended value of R at T_a (max)=60°C.

V_{CC} (V)	8 ~ 12	10 ~ 14	12 ~ 16
R (Ω)	47	68	91

By changing the time constant C_1 and C_2, the response, attack and release time, may be varied. In the above application conditions, power dissipation may be operated at higher levels than the absolute maximum ratings. The wattage of R is to be determined by the total LED current and R value recommended by the R table.